

What is claimed is:

1. A method for identifying an agent capable of inhibiting binding of a ligand of a neuromedin U receptor 2 (NMUR2) protein, or protein fragment, comprising:
  - (a) contacting a test agent with a NMUR2 protein, or protein fragment in the presence of a ligand to the NMUR2 protein or protein fragment; and
  - (b) determining the ability of the test agent to inhibit the binding of the NMUR2 ligand to the NMUR2 protein or protein fragment.
2. A method for identifying an agent capable of modulating a neuromedin U receptor 2 (NMUR2) protein, or protein fragment, comprising:
  - (a) administering a test agent to an animal expressing a NMUR2 protein, or protein fragment; and
  - (b) determining the ability of the test agent to modulate NMUR2 protein or protein fragment.
3. The method of claim 2, wherein the agent is capable of inhibiting pain or nociception transmission modulated by NMUR2.
4. The method of claim 3, wherein the ability of the agent to inhibit pain transmission in a test animal is determined by a tail flick assay.
5. The method of claim 4, wherein the agent is an antibody to NMUR2.
6. A therapeutic method for inhibiting pain or nociception, comprising administering a therapeutically effective amount of a first agent capable of modulating NMUR2 activity.
7. The therapeutic method of claim 6, wherein the first agent is administered in combination with a second pain-reducing agent.

8. The therapeutic method of claim 7, wherein the second agent is morphine.
9. The therapeutic method of claim 7, wherein the first agent is an antagonist of NMUR2.
10. The therapeutic method of claim 7, wherein the antagonist is an antibody to NMUR2.
11. The therapeutic method of claim 9, wherein the antibody may be polyclonal, monoclonal, chimeric, humanized, or a wholly human antibody.
12. The method of claim 6, wherein the NMUR2-associated condition is a chronic pain disease.
13. The method of claim 12, wherein the chronic pain disease is chronic fatigue syndrome or fibromyalgia, or resulting from an injury to the body.
14. A transgenic animal, comprising a modification of an endogenous NMUR2 gene.
15. The transgenic animal of claim 14, wherein the modification is an alteration or deletion of the endogenous NMUR2 gene such that the function of the endogenous NMUR2 protein is reduced or ablated.
16. The transgenic animal of claim 15, further comprising a human NMUR2 gene.